THE CLAIMS

What is claimed is:

1. An spinal fixation assembly including a longitudinal member positionable along a spinal column, the assembly comprising:

a connecting member configured and dimensioned for receiving a portion of the longitudinal member;

a fastener including a lower portion for contacting a bone and an upper portion with a longitudinal axis extending therethrough, the upper portion having two substantially semicircular grooves, wherein each groove is configured and dimensioned for receiving a portion of the connecting member in a lateral direction with respect to the longitudinal axis; and

an attachment member positionable on the fastener that at least partially covers the channel that receives the connecting member, and is configured and dimensioned for receiving a further portion of the connecting member along its circumference and securing the connecting member to the fastener.

2. The assembly of claim 1, wherein the connecting member comprises a shaft having first and second ends, the first end having a hook with an inner surface of concave shape, the inner surface configured and dimensioned to receive the longitudinal member in a position spaced from the attachment member.

3. The assembly of claim 2, wherein the hook has a bore extending from an outer surface to the inner surface.

4. The assembly of claim 3, wherein the bore is configured and dimensioned to receive a set screw for pinning the longitudinal member to the inner surface of the hook.

5. The assembly of claim 2, wherein the second end of the shaft has a textured surface for engaging the attachment member.

6. The assembly of claim 5, wherein the textured surface comprises ridges.

7. The assembly of claim 6, wherein the ridges are arranged about the circumference of the connecting member.

8. The assembly of claim 5, wherein the ridges interlock with serrations on the attachment member to prevent rotation of the shaft with respect to the attachment member.

9. The assembly of claim 1, wherein the fastener has a longitudinal axis extending from a proximal end to a distal end and lying in a central plane, and the two grooves are disposed on opposite sides of the central plane.

10. The assembly of claim 9, wherein the two grooves extend orthogonally with respect to the longitudinal axis and are equidistant from the proximal end of the fastener.

11. The assembly of claim 10, wherein the upper portion has a bore positioned transversely to the longitudinal axis and between the two grooves.

12. The assembly of claim 9, wherein the attachment member comprises:

a cylinder having upper, lower and side surfaces with a bore extending through the upper and lower surfaces and defining a longitudinal axis lying in a central plane;

a slot extending through the cylinder offset from the central plane and parallel with the central plane; and

a protrusion extending from the bottom surface on an opposite side of the central plane from the slot.

13. The assembly of claim 12, wherein the grooves define a seat for accepting the protrusion of the attachment member.

14. The assembly of claim 12, wherein the slot includes serrations along the inner surface.

15. The assembly of claim 12, wherein the slot has an eccentric cross-sectional shape.

16. The assembly of claim 12, wherein the slot has a generally cylindrical cross-section with a geometry substantially conforming to a diameter of the connecting member.

17. The assembly of claim 1, wherein the lower portion comprises a threaded end for engaging a vertebra.

18. The assembly of claim 1, wherein the upper portion comprises a shaft having external threads to accept the locking member.

19. The assembly of claim 1, wherein the lower portion comprises a hook and includes an arcuate portion and a flat portion for facilitating implantation of the fastener.

20. The assembly of claim 19, wherein the arcuate portion has a dimple on a posterior surface.

21. A spinal fixation system comprising at least one longitudinal member and the assembly of claim 1.

22. A connector for securing a longitudinal member to a fastener assembly of a spinal fixation system comprising:

a shaft having a longitudinal axis and first and second ends,

the first end having a hook with inner and outer surfaces, the inner surface having a concave shape and configured and dimensioned to receive the longitudinal member in a position laterally displaced from the fastener assembly,

the second end having a circumference and ridges around the circumference for engaging the fastener assembly, wherein the ridges are configured and dimensioned to interlock with a portion of the fastener assembly to prevent rotation of the shaft relative to the fastener assembly.

23. The connector of claim 22, wherein the hook has a bore extending from the outer surface to the inner surface, the bore configured and dimensioned to receive a set screw for pinning the longitudinal member to the inner surface of the hook.